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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,790	06/30/2003	Gopala Krishna R. Kakivaya	3382-65593	1306
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EXAMINER LAZARO, DAVID R				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/611,790

Applicant(s)

KAKIVAYA ET AL.

Examiner

DAVID LAZARO

Art Unit

2455

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment filed 06/26/08.
2. Claims 1, 5, 8-15 and 17-19 were amended.
3. Claims 21-55 are canceled.
4. Claims 1-20 are pending in this office action.

Response to Amendment

5. The rejection of claims 8-10 and 17-18 under 35 USC 101 are withdrawn based on applicant's amendment to claim 8 and 17 and the amendment to the specification. These amendments clarify applicant's intention to only claim statutory embodiments of claims 8-10 and 17-18.
6. The rejection of claims 19-20 under 35 USC 112, second paragraph are withdrawn based on applicant's amendment to claim 19 clarifying that the claim is directed towards a "computing device".
7. Applicant's arguments filed 06/26/08 have been fully considered but they are not persuasive. See Response to Arguments below. As such, the prior art grounds of rejection presented in the 12/26/07 are respectfully maintained and clarified based on applicant's amendment to the claims.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S.

Patent Application Publication 2002/0156875 by Pabla (Pabla).

10. With respect to claim 1, Pabla teaches a method of reliably discovering devices and services with ad-hoc and server-based operation in a network environment of devices acting as discovery clients and discovery responders, the discovery responders each providing one or more services, at least some of the services being non-unique to a particular device (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services) the method comprising: detecting by a discovery client whether a discovery server is present (Page 4 [0053] Page 5 [0057] and page 6 [0067] - peer (client) determines if there are any peer group name servers (discovery server) present);

in a detected absence of any discovery server, conducting discovery of services of discovery responders by the discovery client as a multicast operation (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services);

in a detected presence of any discovery server, suppressing by the discovery client of its multicast operation and conducting discovery of services of discovery

responders by the discovery client directed to the detected discovery server (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services); and

continuing by the discovery responders to respond to multicast discovery regardless of the presence or absence of the discovery server in the network environment (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers).

11. With respect to claim 2, Pabla teaches all the limitation of claim 1 and further teaches wherein the detecting comprises sending by the discovery client of a discovery query as a multicast operation to find any discovery server in the network environment (Page 4 [0053] and Page 6 [0067]: peers can use multicast to discover name servers).

12. With respect to claim 3, Pabla teaches a method of reliable multicast suppression in service discovery on ad-hoc networks, comprising:

sending a multicast discovery query for discovery servers by a discovery client on a network to find any discovery server present within a scope on the network (Page 4 [0053] and Page 6 [0067]: peers can use multicast to discover name servers);

receiving by the discovery client any response to the multicast discovery query (Page 4 [0053] Page 5 [0057] and page 6 [0067] - peer may receive response from name server);

upon receiving a response of a discovery server to the multicast discovery query, suppressing sending further multicast discovery queries for device services by the discovery client and sending further discovery queries for device services by the discovery client directly to the discovery server, while the discovery server remains present on the network (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery); and

in absence of any response to the multicast discovery query, sending the any further discovery queries for device services by the discovery client as multicast discovery queries on the network (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast).

13. With respect to claim 4, **Pabla** teaches all the limitations of claim 3 and further teaches wherein discovery responders continue to respond to multicast discovery queries for device services matching the respective discovery responders from the discovery client irrespective of the discovery server being present on the network (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers).

14. With respect to claim 5, **Pabla** teaches a computing device operating as a discovery client in a network architecture for a discovery protocol capable of ad-hoc and server-based operation, the computing device comprising:

a memory storing software programming for an ad-hoc discovery protocol (Page 7 [0073]); and

a processor operating to execute the software programming in the memory;
wherein the software programming comprises:

programming code for switching the discovery client between server-based and ad-hoc discovery modes when a discovery server is determined to be present or absent, respectively, in a network in which the computing device is operating (Page 4 [0053] Page 5 [0057] and page 6 [0067] - peer (client) determines if there are any peer group name servers (discovery server) present);

server-based discovery mode programming code for sending discovery queries of the discovery client for device services directly to the discovery server determined to be present in the network (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services); and

ad-hoc discovery mode programming code for sending discovery queries of the discovery client for device services as a multicast transmission to discovery responders in the network (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services).

15. With respect to claim 6, Pabla teaches all the limitations of claim 5 and further teaches wherein the software programming further comprises programming code for detecting the presence or absence of a discovery server in the network (Page 4 [0053] Page 5 [0057] and page 6 [0067] - peer (client) determines if there are any peer group name servers (discovery server) present).

16. With respect to claim 7, Pabla teaches all the limitations of claim 6 and further teaches wherein the programming code for detecting comprises programming code for sending a multicast discovery query to find discovery servers present in the network (Page 4 [0053] and Page 6 [0067]: peers can use multicast to discover name servers).

17. With respect to claim 8, Pabla teaches a computer-readable media having computer-readable software programming thereon for executing on a discovery client in a network architecture of a discovery protocol capable of server-based and ad-hoc discovery, the software programming comprising:

programming code for switching the discovery client between server-based and ad-hoc discovery modes when a discovery server is determined to be present or absent, respectively, in a network in which the computing device is operating (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery, else the peer defaults to using multicast);

server-based discovery mode programming code for sending discovery queries of the discovery client for device services directly to the discovery server determined to be present in the network (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services); and

ad-hoc discovery mode programming code for sending discovery queries of the discovery client for device services as a multicast transmission to discovery responders in the network (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery

continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services).

18. With respect to claim 9, Pabla teaches all the limitations of claim 8 and further teaches wherein the software programming further comprises programming code for detecting the presence or absence of a discovery server in the network (Page 4 [0053] Page 5 [0057] and page 6 [0067] - peer (client) determines if there are any peer group name servers (discovery server) present).

19. With respect to claim 10, Pabla teaches all the limitations of claim 9 and further teaches wherein the programming code for detecting comprises programming code for sending a multicast discovery query to find discovery servers present in the network (Page 4 [0053] and Page 6 [0067]: peers can use multicast to discover name servers).

20. With respect to claim 11, Pabla teaches a distributed system of networked computing devices compliant with an ad-hoc service discovery protocol, the distributed system comprising:

at least one networked computing device operating as a discovery client according to a network architecture of the ad-hoc service discovery protocol, the discovery client having a server-based discovery mode and an ad-hoc discovery mode, the discovery client operating to determine whether any discovery server is present or absent in a network and switch to the server-based discovery mode or ad-hoc discovery mode, respectively, according to the determination, the discovery client operating in ad-hoc discovery mode to send discovery queries for device services as multicast transmissions and operating in server-based discovery mode to suppress multicast

transmission of discovery queries for device services by the discovery client (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery, else the peer defaults to using multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services); and

at least one networked computing device operating as a discovery responder with device services according to the network architecture of the ad-hoc service discovery protocol, the discovery responder operating regardless of presence or absence of a discovery server in the network to respond to multicast transmissions of discovery queries for device services matching the device services of the discovery responder (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services).

21. With respect to claim 12, Pabla teaches all the limitations of claim 11 and further teaches wherein the discovery client has a configured mode, the discovery client operating in the configured mode to suppress multicast transmission of discovery queries by the discovery client and send such discovery queries directly to a specified discovery server specified in its configuration (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery).

22. With respect to claim 13, Pabla teaches all the limitations of claim 11 and further teaches wherein the discovery responder has a configured mode, the discovery responder operating in the configured mode to suppress response to multicast transmission of discovery queries (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery).

23. With respect to claim 14, Pabla teaches a method of discovering controllable device services in ad-hoc and server- managed networks of computing devices, the method comprising:

when connected in an ad-hoc network, sending discovery queries for device services as a multicast transmission from a discovery client computing device (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services); and

when connected in a server-managed network having a discovery server, sending discovery queries for the device services from the discovery client computing device as a directed transmission to the discovery server (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) using a networking protocol that guarantees message delivery (Page 8 [0083] and [0091] - peer to peer platform may use TCP) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services).

24. With respect to claim 15, Pabla teaches all the limitations of claim 14 and further teaches responding to discovery queries for the discovery services received as

multicast transmissions by a computing device that match device services of the computing device regardless of whether connected in the ad-hoc or server-managed network (Page 4 [0053] and Page 5 [0057]: as peers default to multicast discovery to find other peers, groups, services and content, peers aware of name servers still need to be able to respond to peers not aware of name servers) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services).

25. With respect to claim 16, Pabla teaches all the limitations of claim 14 and further teaches wherein the networking protocol is the transmission control protocol (TCP) (Page 8 [0083] and [0091] - peer to peer platform may use TCP).

26. With respect to claim 17, Pabla teaches a computer-readable storage media having a software program thereon executable on a computing device to perform a method of discovering device services in ad-hoc and server-managed networks of computing devices, the method comprising:

when the computing device is connected in an ad-hoc network, sending discovery queries for device services as a multicast transmission from the computing device (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services); and

when the computing device is connected in a server-managed network having a discovery server, sending discovery queries for the device services from the computing device directly to the discovery server (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for

discovery) using a networking protocol that guarantees message delivery (Page 8 [0083] and [0091] - peer to peer platform may use TCP).

27. With respect to claim 18, Pabla teaches all the limitations of claim 17 and further teaches wherein the networking protocol is the transmission control protocol (TCP) (Page 8 [0083] and [0091] - peer to peer platform may use TCP).

28. With respect to claim 19, Pabla teaches a computing device for discovering device services in ad-hoc and server-managed networks of computing devices, the computing device comprising:

means for, when connected in an ad-hoc network, sending discovery queries for device services as a multicast transmission from a discovery client computing device (Page 4 [0053] and Page 5 [0057]: if name server not detected, discovery continued through multicast) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services); and

means for, when connected in a server-managed network having a discovery server, sending discovery queries for the device services from the discovery client computing device as a directed transmission to the discovery server (Page 4 [0053] and Page 5 [0057]: if name server detected, peer stops using multicast and instead uses the name server for discovery) using a networking protocol that guarantees message delivery (Page 8 [0083] and [0091] - peer to peer platform may use TCP) (Paragraphs [13], [42], [51], [52] and [65] - see response to arguments in relation to services).

29. With respect to claim 20, Pabla teaches all the limitations of claim 19 and further teaches wherein the networking protocol is the transmission control protocol (TCP) (Page 8 [0083] and [0091] - peer to peer platform may use TCP).

Response to Arguments

30. Applicant's arguments filed 06/26/08 have been fully considered but they are not persuasive.

31. On pages 9-10 of the remarks, applicant indicates the claimed subject matter now includes limitations directed towards querying for any devices that provide a desired service. Applicant argues, starting on page 10, that Pabla fails to teaches this subject matter. Particularly, applicant argues,

"Thus, to the extent that Pabla describes multicast discovery by a peer, the peer is simply trying to discover a device or group of devices with a particular name on the network, generally. This is not the same as, and does not teach or suggest, conducting discovery "of device services of discovery responders by the discovery client as a multicast operation." In other words, Pabla shows discovery of a device or device group by name of the respective device or group, and not by the service or services that device provides. In fact, at no point does Pabla even discuss discovery queries directed to device services as recited in the claims"

32. **Examiner's response:** The examiner respectfully disagrees with applicant's interpretation of the Pabla reference. Pabla discusses in several instances the discovery of services available to a particular peer on the peer-to-peer network.
33. Pabla identifies that the name server does indeed relate to discovery queries for discovery of a device name or device group name as applicant notes. However, Pabla indicates that the names are not limited just to a device or device group and states that "other entities such as peer groups, content and **services** may also have symbolic names and identifiers" (emphasis added, from paragraph [13], see also paragraph [42]). In Paragraphs [51]-[52], Pabla further states

*"Content and **services may also be registered on the peer group name server 300.** For example, content 310 on peer 200D and service 204 on peer 200B are currently registered on the peer group name server 300. In one embodiment, the peer group name server 300 may store a name and associated identifier for the registered services and content. **Peers 200 may access peer group name server 300 to identify** other peers 200, peer groups 304, **services 204, content 310, and other named entities within the region 302.** In one embodiment, **peers 200 may also use peer group name server 300 to identify peers 200 and other entities within peer group 304.**"* (emphasis added, note that entities includes services)

Additionally, in paragraph [65], Pabla specifically states,

"Information on a peer 200 provided to the peer group name server 300 may also include information on services and/or content available on the peer 200. Using

this information on content and/or services of a peer 200, the content and/or services may themselves be registered with the peer group name server 300.

Using this information, a peer 200 may discover content and/or services that it wishes to access, and may reverse lookup one or more peers 200 that include the content and/or services."

Clearly, the discovery of entities in Pabla is not limited to only peer names or peer group names as asserted by the applicant. Instead, discovery queries also include information on service or services provided by other peers. Therefore, the teachings of Pabla are still within the scope of the claimed subject matter and applicant's arguments are not persuasive.

Conclusion

34. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID LAZARO whose telephone number is (571)272-3986. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Lazaro/
Primary Examiner, Art Unit 2455
October 14, 2008